

Title (en)  
AN IMPROVED QKD METHOD

Title (de)  
VERBESSERTES QKD-VERFAHREN

Title (fr)  
PROCÉDÉ QKD AMÉLIORÉ

Publication  
**EP 4066432 B1 20230308 (EN)**

Application  
**EP 21700130 A 20210114**

Priority  
• EP 20154838 A 20200131  
• EP 2021050643 W 20210114

Abstract (en)  
[origin: WO2021151676A1] There is herein provided a method of performing Quantum Key Distribution, the method comprising, transmitting, in a first basis state, a first photon from a quantum transmitter to a quantum receiver; transmitting, in a second basis state, a second photon from the quantum transmitter to the quantum receiver, the second basis state being non-orthogonal to the first basis state and the transmitter and receiver being optically connected by both a first optical channel and a second optical channel, wherein the step of transmitting the first photon from the quantum transmitter to the quantum receiver in the first basis state comprises: transmitting the first photon from the quantum transmitter to the quantum receiver along either the first optical channel or the second optical channel, wherein the step of transmitting the second photon from the quantum transmitter to the quantum receiver in the second basis state comprises: transmitting a first portion of the probability distribution of the second photon from the transmitter to the receiver along the first optical channel; and transmitting a second portion of the probability distribution of the second photon from the transmitter to the receiver along the second optical channel.

IPC 8 full level  
**H04L 9/00** (2006.01); **H04L 9/08** (2006.01); **H04L 9/40** (2022.01)

CPC (source: EP US)  
**H04B 10/70** (2013.01 - US); **H04L 9/002** (2013.01 - EP); **H04L 9/0852** (2013.01 - EP US); **H04L 63/061** (2013.01 - EP);  
**H04L 63/062** (2013.01 - US); **H04L 63/18** (2013.01 - EP)

Designated contracting state (EPC)  
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)  
**WO 2021151676 A1 20210805**; EP 4066432 A1 20221005; EP 4066432 B1 20230308; US 11777722 B2 20231003;  
US 2023059630 A1 20230223

DOCDB simple family (application)  
**EP 2021050643 W 20210114**; EP 21700130 A 20210114; US 202117759683 A 20210114